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Claims

[c1] 1. A method for signaling telephone numbers within, into, and out of an overlay area of a switched telephone network, from a calling telephone device to a receiving telephone device, said overlay area comprising a parent area code and at least one child area code, using a computerized device, comprising the steps of:
associating a single-digit parent overlay selector code with said parent area code of said overlay area;
associating a different single-digit child overlay selector code different from said parent overlay selector code, with each of said at least one child area codes;
signaling a call from said calling telephone device located within said overlay area, using a 7-digit telephone number and an area code associated with an overlay selector code, to said receiving telephone device located within said overlay area and within said parent area code, by detecting the dialing of a 7-digit telephone number of said receiving telephone device, detecting the dialing of said parent overlay selector code, and setting said overlay selector code to be said parent overlay selector code;
signaling a call from said calling telephone device located within said overlay area, using said 7-digit tele-

phone number and said area code associated with said overlay selector code, to said receiving telephone device located within said overlay area and within one of said at least one child area codes, by detecting the dialing of said 7-digit telephone number of said receiving telephone device, detecting the dialing of said child overlay selector code, and setting said overlay selector code to be said child overlay selector code;

if an initial dialed digit is detected to be a digit "1", then regarding first, second and third digits following said initial dialed digit to be a three-digit area code, and signaling a call to a receiving telephone device at a three-digit area code represented by said first, second and third detected digits following said initial dialed digit, and at a 7-digit telephone number represented by fourth through tenth detected digits following said initial dialed digit; and

if said initial dialed digit is detected to be a digit "2" through "9" inclusive, then:

detecting first and second digits following said initial dialed digit;

determining whether said initial dialed digit combined with said first and second digits following, comprise a locally-defined three-digit area code;

if said initial dialed digit combined with said first and second digits following are determined to comprise a lo-

cally-defined three-digit area code, signaling a call to said receiving telephone device at a three-digit area code represented by said initial dialed digit combined with said first and second digits following, and at a 7-digit telephone number represented by third through ninth detected digits following said initial dialed digit; if said initial dialed digit combined with said first and second digits following are determined to not comprise a locally-defined three-digit area code, then regarding said initial dialed digit combined with said first and second digits following to comprise a central office code, regarding said central office code combined with third through sixth detected digits following said initial dialed digit to be said 7-digit telephone number of said receiving telephone device, and setting a seventh detected digit following said initial dialed digit to be said overlay selector code.

[c2] 2. The method of claim 1, further comprising the step of detecting that a predetermined timing delay has elapsed after detecting the dialing of said 7-digit telephone number, and thereby causing said overlay selector code to default to said parent overlay selector code, in lieu of detecting the dialing of said parent overlay selector code.

[c3] 3. The method of claim 1, wherein said computerized device comprises a computerized telephone switch.

[c4] 4. The method of claim 1, wherein said computerized device comprises computerized customer premises equipment.

[c5] 5. The method of claim 1, wherein determining an area code of said receiving telephone device comprises the steps of:
if an initial dialed digit is detected to be a digit "2" through "9" inclusive, is not a "0", and is not a "1", then determining that said call is to be signaled within said overlay area and is not an out-of-overlay area call, regarding said initial dialed digit to be a first digit of a 7-digit local telephone number of said receiving telephone device located within said overlay area, detecting a set of remaining 6 digits of said 7-digit local telephone number, detecting said overlay selector code, and signaling a call to said receiving telephone device located within said overlay area at a local telephone number represented by said 7-digit local telephone number, and at an area code represented by said overlay selector code;
if said initial dialed digit is a digit "0" through "1" inclusive, and is not a digit "2" through "9" inclusive, then determining that an area code is to be provided among the digits to be dialed, and further:

detecting first, second and third digits following said initial dialed digit;

detecting a fourth digit following said initial dialed digit;

if said fourth detected digit following said initial dialed digit is a digit "2" through "9" inclusive, and is not a "0", and is not a "1", regarding said fourth digit following to be a first digit of a 7-digit local telephone number of said receiving telephone device, detecting a set of remaining 6 digits of said 7-digit local telephone number, and signaling a call to said receiving telephone device at a three-digit area code represented by said first, second and third detected digits following said initial dialed digit, and at a local telephone number represented by the fourth through tenth detected digits following said initial dialed digit;

if said fourth detected digit following said initial dialed digit is a digit "0" through "1" inclusive, and is not a digit "2" through "9" inclusive, regarding said fourth detected digit following to be a fourth digit of a five digit area code, detecting a fifth digit following said initial dialed digit to be a fifth digit of said five-digit area code, detecting a set of digits comprising a sixth through a twelfth digit following said initial dialed digit to be 7 digits of a 7-digit local telephone number of said receiving telephone device, and signaling a call to said receiving telephone device at a five-digit area code repre-

sented by said first through fifth detected digits following said initial dialed digit, and at a local telephone number represented by the said sixth through twelfth detected digits following said initial dialed digit.

[c6] 6. A method for signaling telephone numbers in a switched telephone network, from a calling telephone device to a receiving telephone device, by means of a computerized device, comprising the steps of:
if an initial dialed digit is detected to be a digit "1", then regarding first, second and third digits following said initial dialed digit to be a three-digit area code, and signaling a call to a receiving telephone device at a three-digit area code represented by said first, second and third detected digits following said initial dialed digit, and at a 7-digit telephone number represented by fourth through tenth detected digits following said initial dialed digit;
if said initial dialed digit is detected to be a digit "2" through "9" inclusive, then:
detecting first and second digits following said initial dialed digit;
determining whether said initial dialed digit combined with said first and second digits following, comprise a locally-defined three-digit area code;
if said initial dialed digit combined with said first and

second digits following are determined to comprise a locally-defined three-digit area code:

detecting a third digit following said initial dialed digit;

if said third digit following said initial dialed digit is a digit "2" through "9" inclusive, and is not a "0", and is not a "1", regarding said third digit following to be a first digit of a 7-digit local telephone number of said receiving telephone device, detecting a set of remaining 6 digits of said 7-digit local telephone number, and signaling a call to said telephone device at a three-digit area code represented by said initial dialed digit in combination with said first and second dialed digits thereafter, and at a local telephone number represented by the third through ninth digits following said initial dialed digit;

if said third digit following said initial dialed digit is a digit "0" through "1" inclusive, and is not a digit "2" through "9" inclusive, regarding said third digit following to be a fourth digit of a five-digit area code of said receiving telephone device, detecting a fourth digit following said initial dialed digit to be a fifth digit of said five-digit area code of said receiving telephone device, detecting a set of digits comprising a fifth through a eleventh digit following said initial dialed digit to be 7 digits of a 7-digit local telephone number of said receiving telephone device, and signaling a call to said receiving telephone device at a five-digit area code repre-

sented by said initial dialed digit combined with said first through fourth digits following said initial dialed digit, and at a local telephone number represented by the said fifth through eleventh digits following said initial dialed digit; and

if said initial dialed digit combined with said first and second digits following are determined to not comprise a locally-defined three-digit area code, then regarding said initial dialed digit combined with said first and second digits following to comprise a central office code, regarding said central office code combined with third through sixth detected digits following said initial dialed digit to be said 7-digit telephone number of said receiving telephone device.

[c7] 7. A method for simplifying the dialing of area codes, from a calling telephone device to a receiving telephone device, said area codes comprising a first area code and at least one additional area code, using a computerized device, comprising the steps of:

associating a single-digit first area code selector code with said first area code;

associating a different single-digit additional area code selector code different from first area code selector code, with each of said at least one additional area codes;

signaling a call from said calling telephone device, using a 7-digit telephone number and an area code associated with an area code selector code, to said receiving telephone device, by detecting the dialing of a 7-digit telephone number of said receiving telephone device, detecting the dialing of said first area code selector code, and setting said area code selector code to be said first area code selector code;

signaling a call from said calling telephone device, using said 7-digit telephone number and said area code associated with said area code selector code, to said receiving telephone device, by detecting the dialing of said 7-digit telephone number of said receiving telephone device, detecting the dialing of said additional area code selector code, and setting said area code selector code to be said additional area code selector code;

if an initial dialed digit is detected to be a digit "1", then regarding first, second and third digits following said initial dialed digit to be a three-digit area code, and signaling a call to a receiving telephone device at a three-digit area code represented by said first, second and third detected digits following said initial dialed digit, and at a 7-digit telephone number represented by fourth through tenth detected digits following said initial dialed digit; and

if said initial dialed digit is detected to be a digit "2"

through "9" inclusive, then:
detecting first and second digits following said initial dialed digit;
determining whether said initial dialed digit combined with said first and second digits following, comprise a locally-defined three-digit area code;
if said initial dialed digit combined with said first and second digits following are determined to comprise a locally-defined three-digit area code, signaling a call to said receiving telephone device at a three-digit area code represented by said initial dialed digit combined with said first and second digits following, and at a 7-digit telephone number represented by third through ninth detected digits following said initial dialed digit;
if said initial dialed digit combined with said first and second digits following are determined to not comprise a locally-defined three-digit area code, then regarding said initial dialed digit combined with said first and second digits following to comprise a central office code, regarding said central office code combined with third through sixth detected digits following said initial dialed digit to be said 7-digit telephone number of said receiving telephone device, and setting an additional detected digit to be said area code selector code.

[c8] 8. The method of claim 7, further comprising the step of

detecting that a predetermined timing delay has elapsed after detecting the dialing of said 7-digit telephone number, and thereby causing said area code selector code to default to said first area code selector code, in lieu of detecting the dialing of said first area code selector code.

[c9] 9. The method of claim 7, further comprising the step of setting said computerized device to transmit dialing sequences based on whether calls dialed within a calling region where said computerized device is employed permits both 10 digit and 1+10 digit dialing.